

REMARKS

The above amendments to the above-captioned application along with the following remarks are being submitted as a full and complete response to the Official Action dated August 18, 2006. In view of the above amendments and the following remarks, the Examiner is respectfully requested to give due reconsideration to this application, to indicate the allowability of the claims, and to pass this case to issue.

Status of the Claims

Claims 4-5 are under consideration in this application. Claims 4-5 are being amended, as set forth in the above marked-up presentation of the claim amendments, in order to more particularly define and distinctly claim Applicants' invention.

All the amendments to the claims are supported by the specification. Applicants hereby submit that no new matter is being introduced into the application through the submission of this response.

Formality Rejection

Claims 4-5 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite. As indicated, the claims are being amended as required by the Examiner. Accordingly, the withdrawal of the outstanding informality rejection is in order, and is therefore respectfully solicited.

Prior Art Rejection

Claims 4-5 were rejected under 35 U.S.C. §102(e) as being anticipated by US Patent No. 6,025,136 to Drmanac et al. (hereinafter "Drmanac"). This rejection has been carefully considered, but is most respectfully traversed in view of the claims currently on file, as more fully discussed below.

The method for correcting inter-pin spotting amount errors of a microarray produced by repeating an operation of simultaneously spotting a plurality of groups of samples on a support by using a spotting device provided with a plurality of pins, the method comprising the steps of: simultaneously spotting an identical sample onto a group of control spots (e.g., four spots per group) on the support containing said inter-group spotting amount errors (p. 3, lines 9 and 14) with all of the pins of the spotting device in a predetermined positional relationship (e.g., four corners of a square; Fig. 2), where a plurality of samples are spotted

on the support with the spotting device; measuring spotting amounts in the control spots spotted with the respective pins of the spotting device to obtain correction parameters for said inter-pin spotting amount errors; having the plurality of pins of the spotting device capture different samples and simultaneously spotting the different samples captured by the plurality of pins of the spotting device to provide other groups of sample spots on the support in the same predetermined positional relationship with each other as said group of control spots thereby containing said inter-group spotting amount errors; and correcting an inter-pin spotting amount error of each sample spot of said other groups on the support by using the obtained correction parameters.

Applicants respectfully submit that none of the cited reference teaches or suggests such steps of “correcting inter-pin spotting amount errors of a microarray produced by repeating an operation of simultaneously spotting a plurality of groups of samples on a support by using a spotting device provided with a plurality of pins ” according to the present invention.

In contrast, Drmanac merely normalizes raw data from different hybridization experiments on ONE dot (col. 7, lines 10-13) by “*dividing signals of each probe by an average signal for all probes scored on one dot* (col. 7, lines 14-15),” rather than any inter-dot (among several dots) approach, as does the present invention which corrects “inter-pin spotting amount errors of a microarray produced by repeating an operation of simultaneously spotting a plurality of groups of samples on a support by using a spotting device provided with a plurality of pins.”

In addition, Drmanac uses several control DNAs in each subarray only to determine an average background signal in those samples which do not contain a full match target (col. 7, lines 17-20), which has nothing to do with the “correcting inter-pin spotting amount errors of a microarray” of the present invention.

Applicants contend that cited prior art references or their combinations fail to teach or suggest each and every feature of the present invention as recited in independent claim 4. As such, the present invention as now claimed is distinguishable and thereby allowable over the rejections raised in the Office Action. The withdrawal of the outstanding prior art rejections is in order, and is respectfully solicited.

Double Patenting Rejection

Claims 4-5 were rejected under the judicially-created doctrine of obviousness-type double patenting in view of claims 4-5 of US Patent No. 6,453,243 in view of WO 99/22867 to Kowallis et al. (hereinafter "Kowallis").

Applicants contend that claim 4 of the application now recites distinctive limitations of "simultaneously spotting an identical sample onto a group of control spots on the support containing said inter-group spotting amount errors with all of the pins of the spotting device in a predetermined positional relationship, where a plurality of samples are spotted on the support with the spotting device; measuring spotting amounts in the control spots spotted with the respective pins of the spotting device to obtain correction parameters for said inter-pin spotting amount errors; having the plurality of pins of the spotting device capture different samples and simultaneously spotting the different samples captured by the plurality of pins of the spotting device to provide other groups pf sample spots on the support in the same predetermined positional relationship with each other as said group of control spots thereby containing said inter-group spotting amount errors; and correcting an inter-pin spotting amount error of each sample spot of said other groups on the support by using the obtained correction parameters" that are absent from claims 4-5 of the '243 patent and Kowallis. Accordingly, the withdrawal of the outstanding double patenting rejection is in order, and is therefore respectfully solicited.

Conclusion

In view of all the above, clear and distinct differences as discussed exist between the present invention as now claimed and the prior art reference upon which the rejections in the Office Action rely, Applicant respectfully contends that the prior art references cannot anticipate the present invention or render the present invention obvious. Rather, the present invention as a whole is distinguishable, and thereby allowable over the prior art.

Favorable reconsideration of this application is respectfully solicited. Should there be any outstanding issues requiring discussion that would further the prosecution and allowance

of the above-captioned application, the Examiner is invited to contact the Applicant's undersigned representative at the address and telephone number indicated below.

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